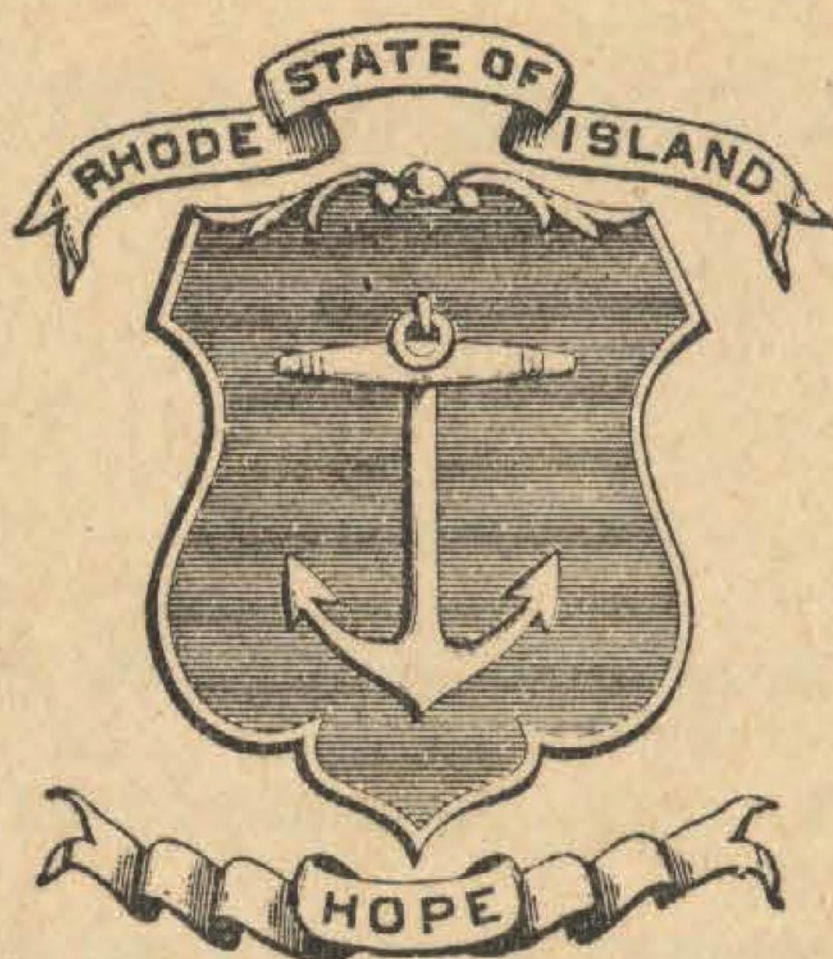


Bulletin of Rhode Island State College

VOL. XXI

FOR FEBRUARY, 1926

REPORT OF THE BOARD OF MANAGERS



KINGSTON, R. I.

1926

PUBLISHED QUARTERLY BY THE COLLEGE
MAY, AUGUST, NOVEMBER, FEBRUARY

ENTERED AT KINGSTON, RHODE ISLAND, AS SECOND-CLASS MATTER

OXFORD PRESS, PROVIDENCE

RHODE ISLAND STATE COLLEGE

Corporation

- HON. WALTER E. RANGER, *Pres.*, Com. of Education, *ex-officio*..Providence
HON. ZENAS W. BLISS, *Vice-President*.....Providence Co., Providence
HON. ROBERT S. BURLINGAME, *Clerk and Treasurer*..Newport Co., Newport
HON. THOMAS G. MATHEWSON.....Kent Co., East Greenwich
HON. CHARLES ESTES.....Bristol Co., Warren
HON. ROWLAND HAZARD.....Washington Co., Peace Dale
HON. I. L. SHERMAN, Member of State Board of Agriculture.....Newport

REPORT

*To His Excellency Aram J. Pothier, Governor, and the Honorable
General Assembly of the State of Rhode Island and Provi-
dence Plantations, at its January Session, 1926:*

I have the honor to submit herewith the Thirty-Eighth Annual Report of the Board of Managers of Rhode Island State College, as required by law.

WALTER E. RANGER,
President, Board of Managers.

REPORT OF THE PRESIDENT OF THE COLLEGE

To the Board of Managers, Rhode Island State College:

GENTLEMEN: I have the honor to present the following as my report for the fiscal year begun on December 1, 1924, and ended December 1, 1925.

Limitation of Attendance

In my report for the year, 1923-1924, I called attention to the fact that, in that year, it became necessary drastically to limit the number of entering students. The space and equipment available for laboratories and classrooms permitted the adequate training of only so many students. The funds provided for the maintenance of the college were sufficient to pay the modest salaries of only so many professors and instructors. The efficiency of the college, its standards of work, the significance of its degrees, and the attainments of its graduates, had won general recognition and respect both among our own people and in the college world of our country. To overload our classrooms and laboratories and thereby seriously to decrease efficiency, to increase the number of teachers by employing men and women of inferior training at lower salaries, would mean to lose the recognition and respect already attained, to misuse and deceive all the young people in our student body, and to perpetrate on the public a sham and a fraud. It has not seemed to us that the people of the State of Rhode Island would tolerate, much less desire, such a procedure, and certainly we ourselves could not win our own consent to it.

The only alternative was to limit the number of students accepted for the year, and this we did by fixing the number of new students to be taken in at one hundred and sixty. This policy was fairly successful, and without serious friction the total number of students for that year was held to only eight more than that of the year preceding.

Attendance for the Current Year

Early in the spring of 1925, however, it began to be evident that the pressure for entrance in September was going to be much more severe than before, and we had to consider very carefully the best method of procedure. After consultation it was agreed by your Board that the number of the whole student body should be limited to five hundred. A letter was sent to all students in attendance, stating that the size of the student body would be so limited and that all persons desiring to return would be required to make application by July 1, accompanying the application with a deposit as an evidence of good faith. The records of all students were carefully scrutinized, and where there was clear evidence of laxity of effort or inability to carry the work the students so indicated were informed that they would not be readmitted. The difference between the limit, five hundred, and the number of present matriculates accepted for 1925-1926 gave the number of new students that could be admitted in September. A waiting list was established and after the quota was filled, transfers were made from the waiting list to the accepted list only as vacancies were made in the accepted list by the dropping out of persons who, though accepted, found themselves unable for any reason to appear at the appointed time. Such a process would and did naturally arouse dissatisfaction, and although every effort was made to proceed with absolute impartiality and to exercise patience and consideration, yet I fear that many felt themselves unduly aggrieved. The total number of applications for admission was three hundred and four and the total number of new undergraduate matriculates admitted was two hundred and six. The total registration was five hundred and seventeen.

Registration for 1926-27

I have set down this somewhat lengthy story in order that you may realize the seriousness of the problem for September, 1926. With the same percentage of loss as in previous years, the three upper classes will register at least three hundred and fifty students, and if we hold the limit of the student body at five hundred, we shall have to restrict the number of entering Freshmen

to one hundred and fifty, as compared with the two hundred and six whom we accepted September last. The public has already sensed this fact and almost from the beginning of the college year, persons have been insisting that we register them definitely for the year 1926-27.

Our plant cannot be enlarged next year. Under the present conditions no part of the "Building Program" can be undertaken until the bond issue proposed by the last General Assembly has been favorably passed upon by the people at the coming election in November. Even then it will be necessary to await the action of the General Assembly of 1927 before actual building can be begun, and it is safe to assume that any considerable building will not be completed within less than a year. It thus appears that our available classrooms and laboratory space will remain stationary for some two years longer in any case and that, consequently, our attendance-limit must remain in force for the same length of time.

A Question of Selection

The indications are that during this time the applications for entrance will steadily increase, just as they have increased even during the past year; while the number that can be accepted will remain stationary. Next year, in other words, we can accept approximately only one out of every three applicants. It is necessary, therefore, to fix a definite method of selecting that one, not on the basis of minimum requirements (that we already have) but on the basis of the best results for the State. That one who can and will make the best return to the body politic for the opportunities afforded by it should be selected. The selection therefore involves the determination both of capability and of character, and the method of selection should be designed for determining both these characteristics. Once determined on, the method of selection should be publicly stated and rigidly adhered to unbiased by influence or importunity.

To fix some minimum standard, accepting in order of application those who measure up to that standard until the quota is filled is the easiest mode of procedure. But it does not result in

the admission of the best among those who apply. Those who are forehanded, those whose financial resources are fairly fixed and who can definitely plan some distance ahead and are able to meet the minimum requirements are the ones who by this method secure admission to the exclusion of those whose future resources are more uncertain, but among whom there may be, and frequently are, persons of unusual capabilities and much greater stability and intensity of purpose. It happened during the past summer that we had to exclude late applicants whose records were much more brilliant than many of those whose early acceptance had filled our quota. It seems best, therefore, to accept among early applicants only those who after due investigation give unmistakable evidence of especial promise and to hold others undecided until, say, July 15. By that time the majority of applications will have been received and a choice of the most deserving can be made.

The Policy of Exclusion

It does not seem to me to be a desirable thing to limit college attendance exclusively to those who have made brilliant previous record. Youth is peculiarly susceptible to errors of judgment and to emotional extravagances. Only by slow and sometimes painful experiences do we learn to control our impulses, to strive for the more remote future good at the cost of foregoing immediate present pleasures, to realize the demands of this business of living and to subject ourselves consciously to its discipline. It frequently happens that young people of unusual powers are because of the very intensity of those powers unusually slow in learning to bring them under the control of sound judgment and to harness them to steady and persistent effort for worth while achievement. To shut the door of opportunity in the face of all youth that at the age of eighteen has not "found itself" would be to lose for human advancement and social accomplishment a relatively large and intrinsically powerful resource. In the long run we cannot afford to pursue that policy. It pays the State well to open wide the door of further opportunity, to prolong the testing time far beyond the high school age. There is much talk

about the inefficiency of the process which graduates only fifty students, we will say, out of one hundred accepted in the Freshman year. I firmly believe that if by apparently wasting training upon two, the State can find a third whose mind and heart are finally disciplined to carry forward its complicated affairs, the cost of the three is none too great a price to pay for the finding of the one.

And there is no short cut, no other safe process for determining worth than that of actual trial. In my deliberate opinion the so-called intelligence tests as applied to high-school graduates are a delusion. The time may come when one can measure the possibilities, actual and latent, of a developing human soul, its power to assimilate from its environment, its secret aspirations and desires, its capabilities for sustained and coherent thought, its emotional drive, its developing capacity for self-direction and control, its possible response to new ideals unfolded before it—it is imaginable, I say, that a day may come when somewhere in the course of the developing young personality, it will according to an appointed schedule pass before a commission of bespectacled savants, be subjected to the measurement of a marvelously adjusted noometer, receive a stamp or hallmark recognized among all men as a definite assurance of percentage both of capacity and of achievement, and with future thus prefigured, rank and status determined, and relative fitness or unfitness ascertained, receive an assignment to a suitable function in an efficiently standardized social organism.

Such a day may indeed arrive; but I am sure that it has not yet dawned. As I read some of the mental measurement literature that has obtained its vogue under the impetus of a purely emergency device—the army intelligence tests—I find it difficult to co-ordinate the thought with the lessons of my own years of experience as a teacher. In its bolder pretensions it rivals the baldest materialism. In its efforts to measure the imponderable, it seeks to emulate the physicist both in method of procedure and in decimal accuracy of results. Under its analysis the power of the human will vanishes, error becomes a constant quantity, re-

penitance is a myth, conversion to new ideals of effort is a fairy-tale.

Not accepting this philosophy, we are forced back to the method of experiment beyond the limits of high-school graduation. We accept the idea that time is a necessary element in any satisfactory testing of the value of any human soul. The true doctrine is, in fact, that the whole four years of college is essentially a process of progressive testing for the rarer values which life demands, and that no pseudo-scientific Pythia on her three-legged stool can take its place.

In the absence of any trustworthy process of divination and in the presence of the modern need for the trained mind, we seem driven to the conclusion that it is one of the primary functions of the State to maintain a wide approach to these laboratories for testing, shaping and polishing the young citizen, and I sincerely deprecate the necessity under which we find ourselves of seriously narrowing that approach.

The Small College

None of the foregoing is intended, however, as a plea for a large college in and per se. Our State is small both in area and numbers. To attempt to maintain a disproportionately large State College would be unstatesmanlike. A small, compact, relatively wealthy State such as ours should, on the other hand, be jealous of the quality of the public enterprises that it does undertake. It should show the utmost solicitude to maintain them at the highest degree of efficiency and under surroundings that betoken a due sense of our own dignity and self-respect. Our capitol building is not as large as that at Albany, but we are not abashed in comparing the two on the solidity and honesty of construction, the dignity and beauty of design, the spaciousness and commodiousness of arrangement, and the solicitous efficiency of maintenance. All these things pertain to and are an expression of the enterprise, advancement, dignity and self-respect of our social order and organization.

The spirit and policy shown by our State in the erection and maintenance of its State House is, I maintain, the spirit and pol-

icy that should characterize its treatment of its State College. The impressive thing about a college is not by any means the multitude of youths that pass in and out of its gates or the mass of its buildings. Rather, it is the degree to which it embodies and propagates the best things in life—ability and desire to serve, the atmosphere of intellectuality and refinement, appreciation of beauty both in the physical and in the spiritual world, intense striving for all truth material, intellectual, spiritual, the exaltation of courage, honor, integrity, character. The fine lines of our capitol in Providence are admirable whether embodied in a building of three hundred feet or nine hundred feet; so these characteristics of a college give dignity and distinction whether the college catalog enumerates five hundred or five thousand students. There is in the small college much to commend it—closeness of personal contacts, possibilities of individual teaching, more direct and immediate supervision. Adequately housed, manned and equipped and maintained, there is nothing of achievement and dignity to which it may not attain.

Appeal for Support of the College Bond Issue

The people of our State have expressed their civic pride and sense of dignity in a State House proportioned by their needs. It is to the same spirit of social solidarity and civic pride that we appeal for support of the college bond issue to come before the people in the next November election. It is for the people to determine whether they desire to offer to their sons and daughters at public expense the opportunities for higher education that a State College affords. In all the States, including our own, there has been unanimity of action in this matter. Even the poorest in resources have been unwilling to jeopardize their future safety and efficiency by not providing for the training of their young people. The question to be decided at our election is that of *adequate* provision—adequate in quantity and especially in quality. My plea is that the State College of Rhode Island should be provided for in a manner becoming the dignity of a State, small indeed in area, but rich in resources, ancient of lineage, and proud of its traditions of initiative, intelligence and achievement; or,

on the other hand, that the State should, in the spirit of its historic independence of judgment and decision, abolish the college as a State enterprise and frankly depend on private benevolence and denominational zeal, or the bounty of its neighboring States, for the higher training of its young men and women. No other alternative is open for a State jealous of its honor and integrity, and solicitous for its good name in our commonwealth of States. It is unthinkable that Rhode Island should be willing to have listed as its State institution for higher learning a starved and anemic affair, incapable of performing its legitimate functions, without respect among our own people and despised in the world outside.

The Bond Issue

In order that the exact issue may be readily accessible, I here insert the provisions of the Act for submitting the proposal for a bond issue, together with the building program which is planned.

Resolution providing for the submission to the people of a bond issue for the erection of new buildings at Rhode Island State College.

RESOLVED, That the following proposition be submitted to the people for their approval or rejection at the general election to be held on the Tuesday next following the first Monday in November, 1926:

RHODE ISLAND STATE COLLEGE LOAN.

Shall the general assembly be authorized and directed to provide for the issue of state bonds not to exceed the amount of six hundred thousand dollars, for the construction, furnishing and equipping of new buildings, and for other permanent improvements at the Rhode Island State College in the town of South Kingstown, said bonds to be issued from time to time in such amounts and upon such terms as the general assembly may hereafter determine?

The proposed building program is as follows:

Engineering building, stone front, brick rear, mostly mill construction	\$200,000
Furnishing, apparatus and equipment for same	45,000
Library and auditorium	140,000
Gymnasium and drill hall, two-story front, main hall one story . . .	100,000
Addition to power plant	10,000
Remodeling Lippitt Hall for classrooms, department offices and lecture rooms	30,000
Men's dormitory	75,000

Economy in Administration of Funds

All the foregoing is in no sense a plea for extravagant or lavish expenditure of money. That we have not been wasteful in administering the funds entrusted to us in the past is shown by comparison with the financing of other institutions of our own class.

Our total maintenance cost per student is \$440. This is the lowest in the six New England States. That of Maine is \$633, of New Hampshire \$449, of Vermont \$489, of Massachusetts \$1374, of Connecticut \$1056. These figures do not include expenses for experiment station or extension work in any case. The cost per student to the State of Rhode Island is \$245. This again is the lowest in New England with the exception of Vermont, where the difference between the total cost and State cost is made up by endowment proceeds and by heavy tuition fees. The maintenance cost per student to the State of Maine is \$317, in New Hampshire it is \$254, in Vermont it is \$45, in Massachusetts \$1100, and in Connecticut \$471. Outside of New England, in Delaware, a State of nearly our own size, the cost per student to the State is \$273 and the total cost is \$460. The corresponding figures in the large States and their institutions are not indicative of lack of economy here. The cost of each of the 9384 students in the University of Michigan is to the State of Michigan \$394, while the total cost per student is \$725. The same figures for the 16,308 students of the University of California are to the State \$278 and total \$426. For the medium-sized University of New Jersey with 1589 students the figures are for the State \$304, and total \$573.

In Rhode Island the expense of maintaining the State College is twenty cents per inhabitant. In Vermont the cost of maintaining the State University, in spite of the remark contained in the foregoing paragraph, is fifteen cents per inhabitant. In the State of Massachusetts the cost per inhabitant of maintaining the State Agricultural College is fifteen cents. In Connecticut the same cost is seventeen cents, while in Maine the cost of its University to each inhabitant is sixty-two cents and in New Hampshire seventy-five cents.

If we consider the institutions outside of New England the per-

inhabitant figure for Delaware is seventy-seven cents; for Michigan it is just over one dollar; in California, it is a dollar and thirty-three cents.

In the face of these figures, it cannot be said that the work being done at the State College is uneconomically managed, nor that the demand it makes on the resources of the State is other than very modest.

Salaries

In accordance with a resolution of your Board, in order to be able to retain good officials and to fill vacancies satisfactorily, we have been increasing salaries slightly year by year under a scale fixed by you. Recently we have found it impossible, on the scale established either to retain officials or to procure satisfactory successors. It is rather disconcerting, on examining into present conditions, to find that our own scale is in every grade from that of president on down, with the exception of instructors only, much below that of any other in our class and section of country. For your consideration I present the following figures:

	Deans.	Professors.	Assistant Professors.	Instructors.
Massachusetts	\$5000	\$3720	\$2700	\$1680
Connecticut	4500	3750	3000	2200
New Hampshire	4500	4000	2800	2000
Maine	4400	3500	2100	1700
Vermont	4000	3400	2800	1800
Rhode Island	3800	3200	2500	2000
Average Median for Sixty-four State Institutions	4583	3600	2437	1888

It is not argued, of course, that we should do so and so because others do it; but it is argued that these are in a sense market quotations, indicating what is being paid for certain grades of work, and what we shall have to pay in filling vacancies. It is a very valuable asset to an institution to be manned by a stable and contented corps of efficient men and women, and the corps cannot be stable and contented unless it feels that it is being fairly treated in the matter of payment for work done.

Finances

The usual comparative statement of receipts and expenditures, exclusive of the experiment station and extension service funds, is attached. The full report of the treasurer submitted herewith gives the figures here summarized, together with a full statement of all other funds handled by the college.

As compared with the estimates submitted in December, 1924, the actual expenditures have varied from them in several items to a considerable degree. In the dairy department it was found necessary to add to our number of live stock at a cost of some \$750, an expense for which no estimate had been made. The expenditure for feed likewise greatly exceeded the income.

On account of the increase in student enrollment a relatively large amount of minor construction and repairs had to be done; laboratory supplies and apparatus, books and furniture had to be supplied and a larger amount of labor utilized.

We were able, fortunately, on the other hand, to lessen the expenditures on fuel very considerably below the estimate for that item. Savings were made on other items—electricity, refunds, rents. Legitimate demands of travel were denied. Most regretably, it seemed necessary to forego the employment of the additional instructors whom we had planned to take on when the estimate was made. Thereby the salary item was considerably reduced. This was made possible only by reducing the number of class periods in many subjects and, as a consequence, lessening the total number of class credits required for graduation in any course from one hundred and sixty to one hundred and thirty-six. The outcome of these shiftings was that the total estimated expenditure was exceeded by some \$1300.

On the other hand, notwithstanding the fact that the estimated need for State maintenance, \$126,700, was cut by \$1700, the estimated current fund receipts by a fortunate combination of circumstances were exceeded by some \$2325, and so, as the final result of the year's dealings, we find that we carry over to the new year a Morrill Fund less by \$675 than it was when we began the year.

RECEIPTS AND EXPENDITURES

EXPENDITURES	11 months			Estimates
	1923	1924	1925	1926
1. Advertising	\$223.00	\$138.00	\$336.00	\$400.00
2. Apparatus	820.36	2,190.01	2,319.92	2,500.00
3. Auto Supplies	728.23	609.18	634.97	700.00
4. Books and Periodicals.....	726.46	1,103.48	1,697.24	1,700.00
5. Commencement	1,181.28	1,096.85	1,402.61	1,400.00
6. Constr. and Repairs.....	5,985.44	12,237.40	8,254.00	8,250.00
7. Electricity	1,867.26	2,251.99	2,014.20	2,050.00
8. Entertainment	768.16	872.26	1,132.46	1,100.00
9. Exp. Station Aid.....	3,371.84	3,820.51	2,569.30	2,600.00
10. Extension	2,339.91	1,008.25	1,599.52	1,600.00
11. Feed	4,153.66	5,476.50	8,125.13	8,000.00
12. Fertilizer	1,183.45	635.49	988.62	1,000.00
13. Freight and Express.....	936.51	1,027.72	1,025.58	1,000.00
14. Fuel	25,727.31	13,216.68	15,928.49	16,000.00
15. Furniture	209.11	772.72	1,136.29	1,100.00
16. Gasoline and Oil.....	1,673.53	1,844.02	1,995.68	2,000.00
17. Janitor Supplies	425.57	598.11	459.27	450.00
18. Labor	27,807.14	33,006.77	36,777.14	36,800.00
19. Lab. Supplies	5,221.27	6,292.82	8,249.67	8,250.00
20. Lectures .....	.....	.....	866.93	1,000.00
21. Live Stock	1,309.25	.....	739.00	.....
22. Post., Sta. and Print.	3,397.14	2,987.38	3,643.35	3,650.00
23. Refunds	986.85	1,552.46	135.67	150.00
24. Rentals	3,418.09	4,453.80	3,888.00	3,800.00
25. Salaries	100,542.35	112,457.29	117,505.14	125,000.00
26. Seed	330.51	358.20	574.11	600.00
27. Telephone and Telegraph.....	787.32	738.58	913.74	1,000.00
28. Tools and Machinery.....	484.05	387.76	516.39	550.00
29. Traveling	2,235.47	2,102.97	2,016.63	2,000.00
30. Veteran's Bureau .....	.....	532.75	.....	.....
31. Miscellaneous	2,529.95	3,066.14	3,051.82	3,000.00
	<u>\$201,370.47</u>	<u>\$216,836.09</u>	<u>\$230,496.87</u>	<u>\$237,650.00</u>
INCOME				
Morrill Fund carried over from previous year	\$19,650.43	\$13,876.57	\$27,232.22	\$26,561.58
Morrill Fund 1890.....	50,000.00	50,000.00	50,000.00	50,000.00
Morrill Fund 1862.....	2,500.00	2,500.00	2,500.00	2,500.00
Current Fund	45,013.28	50,692.52	52,326.23	50,500.00
State Maintenance	98,083.33	126,999.22	125,000.00	135,000.00
	<u>\$215,247.04</u>	<u>\$244,068.31</u>	<u>\$257,058.45</u>	<u>\$264,561.58</u>
Deduct Expenditures	201,370.47	216,836.09	230,496.87	237,650.00
Morrill Fund carried forward.....	\$13,876.57	\$27,232.22	\$26,561.58	\$26,911.58

Estimates for the Year 1926

The estimates for the current year are practically the same as the expenditures of the past year, with the exception that the salary item is placed at \$125,000, an amount \$7500 in excess of the expenditures of 1925. There is no reason to imagine that the costs of last year on the various items will by some good fortune be reduced. On the other hand, it is certain that in the matter of salaries we are being seriously handicapped and embarrassed. The measures used last year to keep down the salary schedule were emergency measures. They cannot be continued without dangerous consequences. I have already called to the attention

of your Board the case of one of our best men, who was offered by one of our foremost universities a position with an immediate increase of salary of 20% over his rate with us, and very enticing prospects for the future. We were faced with the immediate alternatives, either of losing his valuable services, or readjusting his salary. Nor is this the only case. As you know, we are now actually losing another efficient and capable officer under similar conditions.

It is not at all desirable that the small college should serve merely as a reservoir from which the large university may at will draw off the best material. This process means making the small college small not only in size, but also in its intellectual and spiritual life. Thereby it becomes not merely small, but also contemptible. The worth while small college must be able to afford to its personnel a degree of dignity and opportunity for achievement equal with those of the large institution. Such an ideal is easy of attainment; it means merely a due degree of intelligent devotion and a wise recognition of relative values on the part of its sustaining clientele. Any other ideal is not worthy of our State.

Requests from the State

By your authorization we are asking from the State a maintenance fund of \$135,000, and an appropriation for special purposes of \$17,125.00. May I again refer you to my earlier discussion of our habitual economy in the use of funds, and may I add that our neighbor States on either side of us are expending with admirable results on their respective State colleges of just the same size as our own two dollars and more of State money for every dollar we are requesting. It has always been our policy to make our estimates and frame our requests from the General Assembly with absolute sincerity on the basis of minimum requirements, and rather below than on a par with absolute needs. The schedules herewith presented are drawn up on these principles, and it is earnestly hoped that they will be received and considered at their face value.

SPECIAL APPROPRIATION ASKED FOR

Additional equipment in chemical laboratory.....	\$1,600
Additional chairs (150) for assembly hall.....	500
Remedying acoustics of assembly hall.....	500
Remodeling building for live stock.....	600
Bull shed (necessary for safety).....	1,200
Installation of protane gas in home economics laboratory.....	300
New equipment for	
(a) Physics and Engineering.....	\$1,425
(b) Biology	500
(c) Botany	500
(d) Business Administration	75
(e) Art	200
	————— \$2,700
Furniture for	
(a) Biology	\$170
(b) Art	100
(c) Business Administration	60
	————— 330
Books, for	
(a) Biology	\$230
(b) Chemistry.	400
(c) Economics	265
	————— 895
Bleachers, equipment and enlargement of athletic fields.....	8,500
	—————
Total.	\$17,125

Experiment Station

The report of the Director of the Experiment Station is attached hereto. The outstanding event in this department is the receipt from the General Government of the first allotment of \$20,000 under the so-called Purnell Bill. This fund will greatly enlarge the possibilities for investigation, especially in the line of agricultural economics and home economics.

Extension Service

Radical changes in the organization of this department of the college activities have been made during the year. Professor Stene, who has so long and so faithfully served as the Director

of this work, was at his desire appointed to pomological research work in the experiment station. Professor George E. Adams, Dean of the Agricultural Department of the college, was made also Director of the Extension Service. Various members of the teaching faculty of the agricultural department have been assigned duties as expert advisors in the extension service. Director Adams' first report is herewith presented.

Changes in Personnel

In June, Captain Joseph Church was detailed elsewhere by the U. S. War Department, and Lieutenant Paul D. Carter, Infantry, was sent to take his place as Professor of Military Science and Tactics.

Mr. Philip E. Bunker, B. B. A., Boston University, and M. C. S., Research University, Washington, D. C., having an experience of four years as assistant professor in the business administration department of Syracuse University, was appointed as associate professor in our business administration department.

Mr. Claude G. Beardslee, B. A., Yale University; B. D., and S. T. M., Hartford Theological Seminary, M. A., University of Southern California, having taught three years in the University of Southern California, was appointed professor of psychology.

Mr. Lloyd L. Tower, instructor in mechanical engineering, was promoted to the rank of assistant professor in that department.

Mr. John R. Eldred, instructor in mechanical engineering, was given a leave of absence, and Mr. Ralph E. Brown, B. E. E., Northeastern University 1922 and S. M., Mass. Institute of Technology 1925, having been instructor in mechanical engineering in Northeastern University and in Tufts College, was appointed in this position.

Mr. Frederick Delmont Tootell, Student in Pre-Medical School of Bowdoin College, and teacher in Mercersburg Academy for one year, was appointed as assistant to our physical director, and instructor in physical training.

Mr. Kenneth Goodner, A. B., University of Kansas 1923 and A. M., University of Kansas 1924, was appointed assistant in bacteriology vice Ralph P. Tittsler, resigned.

Miss Julia I. Foster, A. B., Nebraska Wesleyan University, and A. M., Boston University, with a teaching experience of several years, was appointed instructor in modern languages.

Experiment Station

The following appointments were made in the experiment station:

Mr. Basil E. Gilbert, B. A., M. A., McMaster University; Ph. D., University of Chicago, chemist.

Mr. Leo J. Hardin, A. B., University of Arkansas; M. S., Purdue University, assistant chemist.

Mr. Roger B. Corbett, B. S., Ph. D., Cornell University, economist.

Mrs. Wilkie Leggett Hines, B. S., Mississippi State College for Women; B. A., University of Illinois; M. A., University of Chicago, investigator in home economics.

Mr. Nelson F. Waters, poultryman in place of Mr. Walton H. Scott, who was obliged to give up his work on account of illness.

Extension Service

Mr. George E. Adams, Dean of the Agricultural Department, was made also Director of the Extension Service, the vacancy in the directorship being caused by the appointment of A. Edward Stene, Director of Extension since 1907, to the position of pomologist in the experiment station.

Miss Sara E. Coyne, B. S., R. I. S. C. 1918, was appointed State Leader of Home Demonstration Agents, in place of Mrs. Hope Browne Minor, resigned.

Commencement

At the annual commencement, June 15, 1925, the degree of Bachelor of Science was awarded to a class of sixty-one students. Of these thirteen obtained the degree in agriculture, five in chemical engineering, seven in civil engineering, eleven in electrical engineering, five in mechanical engineering, eleven in general science, and nine in home economics. The advanced degree of

Mechanical Engineer was granted to Walter Doll, B. S., R. I. S. C. 1912. The honorary degree of Doctor of Laws was conferred on Frederick Roy Martin of New York.

The main addresses of the day were given by Dr. Martin and Senator Jesse H. Metcalf. The baccalaureate address of the Sunday preceding was given by the writer, the address being entitled, "The New Freedom."

Scholarships and Awards

We wish gratefully to record the gracious act of Dr. Frederick Roy Martin in presenting to the college one hundred and fifty dollars for the establishment of a loan fund to worthy and needy students.

The two scholarships of fifty dollars each so thoughtfully and generously provided by the State Federation of Women's Clubs were awarded this year to Jean Isabel Robertson, 1928, and Mabel Evangeline Dimond, 1927. The Triangle Club of Kingston awarded its scholarship of fifty dollars to Hazel May Kimber, 1925.

The following-named students won the prize of fifty dollars each, offered by the Rhode Island State Grange for the highest grades obtained in the respective courses: In agriculture, Noel Vernon White Smith, and in home economics, Jean Isabel Robertson.

Gifts

On February 14 the Kingston branch of the People's Savings Bank, in conjunction with the Kingston Trust Company, closed its doors. Fortunately all depositors, including the college, were fully reimbursed by the bank directors for funds deposited in either bank, in the following June. Shortly before the sale of the bank building, a letter was received from the People's Savings Bank in Providence offering the Corliss Safe to the college authorities without further expense than that of removal from the bank building to the college grounds. Your Board accepted the gift and responded with an appropriate letter expressing their

appreciation of this substantial and valuable addition to our office equipment.

The foregoing is respectfully submitted for your consideration.

HOWARD EDWARDS,

President.

January 15, 1926.

REPORT OF THE REGISTRAR

ATTENDANCE

TABLE No. 1

Showing Attendance by Classes During the Years 1922-26

CLASSES	1921-22	1922-23	1923-24	1924-25	1925-26
Graduate Students	4	4	3	7	7
Seniors	59	54	56	64	69
Juniors	75	67	84	80	112
Sophomores	93	90	87	134	123
Freshmen	138	150	208	159	197
Irregular	15	14	14	21	7
Total, college courses	384	379	452	465	515
Two-year courses	17	12	10	5	2
Total	401	391	462	470	517

TABLE No. 2

Showing Number of Men and Women, of New and Previous Matriculates,
and Number in the Several Courses by Classes for
Collegiate year 1925-26

CLASS	Sex		Date of Matriculation	
	Men	Women	Previous to 1925	1925
Graduates	6	1	4	3
Seniors	55	14	69	..
Juniors	91	21	112	..
Sophomores	104	19	120	3
Freshmen	162	35	1	196
Irregular	4	3	5	2
Total College	422	93	311	204
Two-year	2	..	2	..
Grand Total	424	93	313	204

Class.	Agri.	Engineering					Gen. Sci.	Home Ec.	Bus. Ad.	Edu.	Total
		Civil	Chem.	Elec.	Mech.	Total					
Graduate..	—	—	—	—	1	1	6	—	—	—	7
Senior	3	7	3	12	9	31	23	10	1	1	69
Junior	5	11	3	18	15	47	23	13	24	—	112
Sophomore	9	12	9	25	5	51	19	18	26	—	123
Freshman .	10	—	—	—	—	91	38	27	31	—	197
Irregular ..	—	—	—	—	—	—	1	2	4	—	7
Total Col- lege	27	30	15	55	30	221	110	70	86	1	515
Two-year ..	2	—	—	—	—	—	—	—	—	—	2
Grand Total	29	30	15	55	30	221	110	70	86	1	517

HOME RESIDENCE OF STUDENTS

A. Resident outside of the State:

Connecticut:		Chelsea	1
East Hartford	1	Chicopee Falls	1
Essex	1	Dedham	1
Hartford	1	East Braintree	1
Lakeville	1	East Dedham	1
New Haven	2	Fairhaven	1
New London	2	Fall River	4
Norwichtown	1	Gardner	1
Stonington	2	Harwich Port	1
South Windsor	1	Holyoke	3
Taftville	1	Hyde Park	1
West Hartford	2	Malden	1
	—	Middleboro	3
	15	Montello	1
Maine:		New Bedford	4
Sanford	2	Newburyport	1
Massachusetts:		North Attleboro	1
Attleboro	2	Rehoboth	1
Brockton	18	Revere	5
Campello	1	Roxbury	1
Chatham	1	Seekonk	1

Sharon	1	Passaic	2
Sheldonville	1		—
South Attleboro	1		3
Southbridge	1	New York:	
South Hadley	1	New Rochelle	1
Turner Falls	1	Pennsylvania:	
Webster	3	Palmerton	1
West Bridgewater	1	Slatington	1
West Tisbury	1	Sunbury	1
Whitman	1		—
Willimansett	2		3
	—		
	71		

New Jersey:		Porto Rico:	
Denmark	1	Ponce	1

Total attendance from without the State..... 96

B. Resident in Rhode Island by Counties and Towns:

Bristol:		Providence:	
Barrington	3	Burrillville	5
Bristol	4	Central Falls	10
Warren	4	Cranston	15
	—	Cumberland	2
	11	East Providence	20
Kent:		Glocester	2
Coventry	1	Johnston	2
East Greenwich	4	Lincoln	6
Warwick	8	North Providence	5
West Warwick	4	Pawtucket	31
	—	Providence	171
	17	Scituate	1
Newport:		Woonsocket	12
Jamestown	5		—
Little Compton	5		282
Middletown	1	Washington:	
Newport	31	Charlestown	2
New Shoreham	1	Hopkinton	1
Portsmouth	1	North Kingstown	9
Tiverton	3	South Kingstown	26
	—	Westerly	25
	47	Narragansett	1
			—

Total attendance from within the State.....421

Entrance Statistics for Class Registration in 1925

Number received from high school.....	194
Number re-classified and repeating work.....	1
Number received by examination.....	0
Number transferred from other colleges.....	2

Total enrolled in freshman class..... 197

Analysis of high school students with regard to number of units credited:

Number credited with fifteen or more units.....	183
Number credited with fourteen and a half units.....	7
Number credited with fourteen units.....	4
Number credited with thirteen units.....	0

Total. 194

Number entering with conditions in required subjects as follows:

One-half unit of condition.....	18
One unit of condition.....	18
One and one-half units condition.....	0
Two units conditions (Modern Languages).....	6

Total number enrolled with conditions..... 42

Total number enrolled without conditions..... 152

Total. 194

Average age of men and women, Oct. 1, 1925..18 years, 9 months, 11 days

Age of youngest member of class, Oct. 1, 1925..16 years, 9 months, 3 days

Age of oldest member of class, Oct. 1, 1925....26 years, 0 months, 5 days

Preparatory Schools Represented in Registration of Freshman Class

In Rhode Island:		East Greenwich Academy.....	2
Barrington	0	East Providence	7
Bristol	2	Little Compton	1
Burrillville	0	Newport—Rogers High	12
Central Falls	4	Pawtucket	8
Cranston	10	Providence:	
Cumberland	3	Classical	4

Commercial High	3	Chicopee High	1
Hope Street	5	Danvers, St. John's Prep.....	1
Technical	50	Fall River, B. M. C. Durfee..	2
LaSalle Academy	3	Gardner High	1
St. Francis Xavier.....	6	Holyoke High	2
South Kingstown	8	Hyde Park High.....	1
Warren High	3	Middleboro High	1
Warwick High	6	New Bedford High.....	2
West Warwick	3	Newburyport High	1
Westerly	10	Revere High	4
Woonsocket	5	Sharon High	1
	—	Taunton High	1
	155	Turners Falls High.....	1
In Connecticut:		West Bridgewater, Howard	
Essex, Pratt High.....	1	High	1
New Haven Collegiate Prep...	1		—
New Haven High.....	1		25
Stonington High	3	In New Jersey:	
	—	Passaic High	2
	6	In Pennsylvania:	
In Maine:		Slatington High	1
Portland, Westbrook Seminary	1	In Vermont:	
Sanford High	2	Bradford Academy	1
	—	In District of Columbia:	
	3	Mt. St. Albans:	
In Massachusetts:		National Cathedral School.	1
Attleboro High	1		—
Brockton High	3	Grand Total	194
Chelsea High	1		

REPORT OF THE TREASURER

R. S. BURLINGAME, Treasurer, *in account with the different funds of RHODE ISLAND STATE COLLEGE, for the year ending November 30, 1925.*

EXPENDITURES.	Morrill, 1890.	Morrill, 1862.	Smith- Lever.	State Main- tenance.	Repairs and Im- provements.	Current.	Trust.	Totals.
Overdraft November 30, 1924.....						\$1,876.10		\$1,876.10
Advanced Herd Registry..							\$2,166.50	2,166.50
Advertising in Publications						336.00		336.00
Apparatus			\$1,563.36	\$1,907.06		412.86		3,883.28
Auto Service				530.90		104.07		634.97
Boarding							91,126.97	91,126.97
Books and Periodicals....				868.56		828.68		1,697.24
Commencement				786.92		615.69		1,402.61
Construction and Repairs.				6,469.36		1,784.64		8,254.00
Construction and Repairs, Special					\$6,400.00			6,400.00
Dormitory and Land Rental.....				500.00		3,388.00		3,888.00
Electric Current Furnished						2,014.20		2,014.20
Entertainment				2.50		1,129.96		1,132.46
Experiment Station—Aid..				2,081.27		488.03		2,569.30
Extension				927.17		672.35		1,599.52
Feed				5,476.90		2,648.23		8,125.13

Fertilizers			988.62				988.62
Freight and Express.....		\$16.03	64.15		961.43		1,041.61
Fuel			13,130.78		2,797.71		15,928.49
Furniture			1,102.65		33.64		1,136.29
Gasoline and Oil.....			557.71		177.74		735.45
Gasoline and Oil, Truck...			1,083.60		176.63		1,260.23
Janitors' Supplies			390.77		68.50		459.27
Labor (Engineers, Poultry- men, Farm, etc.).....			24,966.82		5,696.99		30,663.81
Labor (Undergraduate) ..		81.68			6,113.33		6,195.01
Laboratory Supplies			3,894.53		4,355.14		8,249.67
Live Stock			665.00		74.00		739.00
Postage, Stationery and Printing		346.25	2,454.32		1,189.03		3,989.60
Poultry Testing						207.32	207.32
Refunds					135.67		135.67
Salaries	52,547.40	2,500.00	7,307.89	53,545.17	8,912.57		124,813.03
Seeds and Plants.....			262.33		311.78		574.11
Stable Supplies			33.84		53.00		86.84
Store						12,586.82	12,586.82
Telephone and Telegraph..		34.62	5.16		908.58		948.36
Tools and Machinery.....			466.84		49.55		516.39
Traveling		1,346.56	867.12		1,149.51		3,363.19
Miscellaneous		293.00	969.95		2,861.96		4,124.91
	<u>\$52,547.40</u>	<u>\$2,500.00</u>	<u>\$10,989.39</u>	<u>\$125,000.00</u>	<u>\$6,400.00</u>	<u>\$52,325.57</u>	<u>\$106,087.61</u>
							<u>\$355,849.97</u>

RECEIPTS.	Morrill 1890	Morrill 1862	Smith- Lever	Main- tenance	Repairs and Im- provements	Current	Reserve	Trust	Totals
ber, 1924	\$29,108.32	.....	\$1,113.18	.....	.....	.....	\$2,000.00	\$8,711.84	\$40,933.34
Balance on hand Novem- Federal Appropriation, 1924-25	50,000.00	\$2,500.00	11,580.21	.....	.....	.....	.....	.....	64,080.21
State Appropriation .....	.....	.....	.....	\$125,000.00	\$6,400.00	.....	.....	.....	131,400.00
Department Sales .....	.....	.....	.....	.....	.....	23,802.41	.....	.....	23,802.41
Department Service .....	.....	.....	.....	.....	.....	1,372.71	.....	.....	1,372.71
Interest .....	.....	.....	.....	.....	.....	351.35	.....	.....	351.35
Dormitory Fees .....	.....	.....	.....	.....	.....	7,734.94	.....	.....	7,734.94
Department Fees .....	.....	.....	.....	.....	.....	5,184.00	.....	.....	5,184.00
Laboratory Sales .....	.....	.....	.....	.....	.....	5,325.61	.....	.....	5,325.61
Tuition .....	.....	.....	.....	.....	.....	4,610.50	.....	.....	4,610.50
Vocational Board .....	.....	.....	.....	.....	.....	2,444.99	.....	.....	2,444.99
Commencement .....	.....	.....	.....	.....	.....	436.60	.....	.....	436.60
Boarding .....	.....	.....	.....	.....	.....	.....	.....	89,376.74	89,376.74
Store .....	.....	.....	.....	.....	.....	.....	.....	12,984.15	12,984.15
Advanced Dairy Registry. ....	.....	.....	.....	.....	.....	.....	.....	2,222.80	2,222.80
Poultry Testing .....	.....	.....	.....	.....	.....	.....	.....	75.60	75.60
Miscellaneous .....	.....	.....	.....	.....	.....	1,063.12	.....	.....	1,063.12
	<u>\$79,108.32</u>	<u>\$2,500.00</u>	<u>\$12,693.39</u>	<u>\$125,000.00</u>	<u>\$6,400.00</u>	<u>\$52,326.23</u>	<u>\$2,000.00</u>	<u>\$113,371.13</u>	<u>\$393,399.07</u>
Expenditures	52,547.40	2,500.00	10,989.39	125,000.00	6,400.00	52,325.57	.....	106,087.61	355,849.97
Balance November 30, 1925.	\$26,560.92	.....	\$1,704.00	.....	.....	.66	\$2,000.00	\$7,283.52	37,549.10

AGRICULTURAL EXPERIMENT STATION

EXPENDITURES	Hatch	Adams	Purnell	Miscel- laneous	Feeding Inspection	Fertilizer Control	*College Aid	Total
Building and Land.....	\$95.17	\$184.25	\$268.28	\$10.09	.....	.....	.....	\$557.79
Communication Service	64.09	2.20	47.78	9.04	\$0.12	.....	.....	123.23
Feeding Stuffs	255.16	1,678.22	965.42	293.52	.....	.....	\$69.92	3,262.24
Fertilizers	991.64	18.00	19.00	17.50	.....	.....	.....	1,046.14
Furniture	25.00	2.40	37.99	7.90	.....	.....	.....	73.29
Heat, Light, Water and Power	189.53	354.15	293.03	124.50	24.50	\$55.50	269.61	1,310.82
Labor	3,135.22	4,637.87	1,382.91	2,611.60	978.17	2,579.33	311.10	15,636.20
Library	147.30	119.38	208.29	30.73	.....	.....	.....	505.70
Live Stock .....	.....	115.00	.....	.....	.....	.....	.....	115.00
Publications	1,389.29	.....	.....	55.32	98.50	197.50	.....	1,740.61
Salaries	5,141.34	8,921.25	6,768.33	2,424.79	.....	.....	1,874.67	25,130.38
Scientific Equipment	90.00	81.24	188.69	10.86	9.27	12.48	.....	392.54
Scientific Supplies, Consum- able	25.18	330.64	36.76	36.76	72.57	237.72	.....	739.63
Stationery and Office Supplies	123.30	11.03	65.88	6.08	.....	17.80	.....	224.09
Sundry Supplies	380.90	166.67	13.07	78.50	4.25	19.39	.....	662.78
Tools and Machinery.....	554.22	154.23	533.42	271.37	.....	2.68	.....	1,515.92
Transportation	245.59	19.98	16.61	620.99	4.79	13.24	44.00	965.20
Traveling	395.42	50.67	324.56	119.88	102.80	170.90	.....	1,164.23
Contingent Expenses	8.47	.....	.....	27.23	5.00	5.00	.....	45.70
	<u>\$13,256.82</u>	<u>\$16,847.18</u>	<u>\$11,170.02</u>	<u>\$6,756.66</u>	<u>\$1,299.97</u>	<u>\$3,311.54</u>	<u>*\$2,569.30</u>	<u>\$55,211.49</u>

REPORT OF THE TREASURER.

RECEIPTS	Hatch	Adams	Purnell	Miscel- laneous	Feeding Inspection	Fertilizer Control	College Aid	Total
Balance on Hand.....	\$707.78	\$13.43	.....	\$1,314.31	.....	.....	.....	\$2,035.52
Federal Appropriation	15,000.00	15,000.00	\$10,000.00 ½ yr.	.....	.....	.....	.....	40,000.00
State Appropriation .....	.....	.....	.....	.....	1,300.00	.....	.....	1,300.00
College Funds .....	.....	.....	.....	.....	.....	.....	2,569.30	2,569.30
Fees .....	.....	.....	.....	.....	.....	\$3,312.00	.....	3,312.00
Department Sales .....	.....	.....	.....	6,118.68	.....	.....	.....	6,118.68
Department Service .....	.....	.....	.....	218.55	.....	.....	.....	218.55
Interest .....	.....	.....	.....	78.05	.....	.....	.....	78.05
	<u>\$15,707.78</u>	<u>\$15,013.43</u>	<u>\$10,000.00</u>	<u>\$7,729.59</u>	<u>\$1,300.00</u>	<u>\$3,312.00</u>	<u>\$2,569.30</u>	<u>\$55,632.10</u>
Expenditures	13,256.82	16,847.18	11,170.02	6,756.66	1,299.97	3,311.54	2,569.30	55,211.49
Balance November 30, 1925..	\$2,450.96	\$1,833.75 ^{DR.}	\$1,170.02 ^{DR.}	\$972.93	\$0.03	\$0.46	.....	\$420.61

*Included in College Schedule under Maintenance and Current Funds.

I hereby certify that the above is correct and true, and truly represents the details of expenditures for the period and by the institution named.

R. S. BURLINGAME,
Treasurer.

This is to certify that we, the undersigned, Auditing Committee of the Board of Managers of Rhode Island State College, have examined the accounts of R. S. Burlingame, Treasurer of said college, and find the same correct.

THOMAS G. MATHEWSON,
CHARLES ESTES,
Auditors.

Summaries Dealing with Certain Phases of Receipts and Expenditures for the Year Ending June 30, 1925

SUMMARY FOR THE YEAR.

Debit balance on hand July 1, 1924.....	\$50,332 63
Total income during year.....	482,986 66
Total.	\$432,654 03
Total expenditures during year.....	386,893 91
Balance on hand July 1, 1925.....	\$45,760 12

INCOME.

Income from Students:

Tuition fees	\$4,462 50
Matriculation and incidental fees.....	4,956 29
Chemicals and laboratory supplies.....	5,609 27
Dormitory fees	7,699 95
Dining halls	86,657 11
Store sales	10,812 71
	\$120,197 83

Income from State and Nation:

State—Maintenance.	\$225,249 22
State—Repairs and Improvements.....	6,400 00
Federal—Morrill Act of 1890 and Nelson Act of 1907.	50,000 00
Morrill Act of 1862.....	2,500 00
Hatch Act of 1887—Experiment Station	15,000 00
Adams Act of 1906—Experiment Station	15,000 00
Smith-Lever Act of 1914—Extension...	11,598 82
	\$325,748 04

Income from Other Sources:

Department Sales and Service.....	\$31,414 19
Interest.	157 38

Experiment Station:

Department Sales and Service.....	\$5,419 08
Interest.	50 14
	\$5,469 22

	\$37,040 79
Total Income	\$482,986 66

Receipts from Tuition :

Students taking course of one year or more.....	379
Students paying tuition (non-resident in Rhode Island) at rate of \$50.00 per year.....	91
Amount of tuition paid.....	\$4,462 50

EXPENDITURES

Expenditures, Exclusive of Experiment Station and Extension Service:

Advanced Herd Registry.....	\$1,970 26
Advertising in Publications.....	188 00
Apparatus	2,260 44
Auto Service	877 06
Boarding	90,547 60
Books and Periodicals.....	1,390 23
Commencement	1,409 26
Construction and Repairs.....	10,660 19
Construction and Repairs, Special.....	3,310 68
Dormitory and Land Rental.....	3,756 00
Electric Current Furnished Outside College.....	2,629 10
Entertainment	906 65
Feed	7,187 83
Fertilizers	976 62
Freight and Express.....	903 76
Fuel	18,123 85
Furniture	426 10
Gasoline and Oil.....	1,819 80
Janitors' Supplies	441 47
Labor (Engineers, Poultrymen, Farm, etc.).....	28,492 13
Labor (Undergraduates, Exclusive of Boarding)	6,627 19
Laboratory Supplies	9,466 23
Live Stock	689 00
Postage, Stationery and Printing.....	3,449 86
Refunds	162 84
Salaries	114,591 99
Seeds and Plants.....	467 37
Stable Supplies	84 84
Store	10,361 23
Telephone and Telegraph.....	763 43
Tools and Machinery.....	637 40
Traveling	1,778 95
Miscellaneous	3,719 45
	<hr/> \$331,076 81

Expenditures, Experiment Station.....	42,308 12
Expenditures, Extension Service.....	13,508 98
	<hr/>
Total Expenditures	\$386,893 91

ANALYSIS OF BALANCE, JULY 1

	1924	1925
Morrill Fund of 1890.....	.....	.....
Morrill Fund of 1862.....	.....	.....
Smith-Lever Fund—Extension Service.....	.....	.....
Hatch Fund—Experiment Station.....	.....	.....
Adams Fund—Experiment Station.....	.....	.....
State—Maintenance	\$44,445 99 DR.	\$39,381 47
State—Repairs and Improvements.....	.....	3,089 32
Current Fund	3,411 92 DR.	11,184 15
Trust Fund	4,629 89 DR.	7,744 19 DR.
Miscellaneous—Experiment Station	155 17	2,160 63 DR.
Reserve Fund	2,000 00	2,000 00
	<hr/>	<hr/>
	\$50,332 63 DR.	\$45,760 12

STUDENT ACTIVITIES ACCOUNT

By Balance brought forward from last year.....	.....	\$1,427 98
Receipts during year:		
a—Student taxes.....	\$8,821 27	
b—Season tickets	249 50	
c—Interest	12 90	9,083 67
To Baseball	\$1,816 43	543 25
Basketball.	1,948 78	584 73
Beacon	769 10	.....
Debating Society	184 55	10 96
Football	4,967 34	2,238 86
Lecture Association	439 25	20 00
Miscellaneous, hospital expense, etc.....	781 57	.....
Tennis	47 04	.....
Track	1,112 59	181 21
Young Men's Christian Association.....	10 00	.....
Young Women's Christian Association.....	10 00	.....
Young Women's Athletic Association.....	502 82	39 05
Young Women's Student Government.....	35 00	8 00
Balance on hand September 1, 1925.....	1,513 24	.....
	<hr/>	<hr/>
	\$14,137 71	\$14,137 71

ALUMNI STUDENT LOAN FUND

By Amount of contribution to July 1, 1924.....		\$741 88
By Amount of contribution received 1924-1925.....		210 50
By Amount of accrued interest to July 1924.....		132 37
By amount of interest received 1924-1925.....		11 83
To Amount of loans out July 1, 1925.....	\$734 72	
Cash on hand July 1, 1925.....	361 86	
	<hr/>	<hr/>
	\$1,096 58	\$1,096 58

FREDERICK ROY MARTIN STUDENT LOAN FUND

By amount of fund received June, 1925.....		\$150 00
--	--	----------

SCHOLARSHIP FUNDS

Rhode Island State Grange.....		\$100 00
To award in Agriculture to Noel Vernon White Smith	\$50 00	
Home Economics to Jean Isabel Robert- ertson	50 00	
	<hr/>	<hr/>
	\$100 00	\$100 00
Rhode Island State Federation of Women's Clubs.....		\$100 00
To award to Jean Isabel Robertson.....	\$50 00	
Mabel Evangeline Dimond.....	50 00	
	<hr/>	<hr/>
	\$100 00	\$100 00
Triangle Club of Kingston.....		\$50 00
To award to Hazel May Kimber.....	\$50 00	
	<hr/>	<hr/>
	\$50 00	\$50 00

CAMPUS CLOCK FUND

By class gifts from Seniors.....		\$226 41
accrued interest		120 54
		<hr/>
		\$346 95

CAMPUS GATEWAY FUND

By class gifts from Seniors.....		\$300 00
accrued interest		8 45
		<hr/>
		\$308 45

THIRTY-EIGHTH ANNUAL REPORT OF THE
DIRECTOR OF THE AGRICULTURAL
EXPERIMENT STATION.*

PRESIDENT HOWARD EDWARDS,

Rhode Island State College.

DEAR SIR:—

Hereby are submitted brief statements of such results of research obtained during 1925 as will serve to indicate the nature of the more important lines of work.

Such a report of progress should be understood to present certain ideas which may be modified in the future as the researches are continued. Nevertheless, it seems desirable to transmit annually one paragraph concerning the impressions derived from each project even if some readers do attach too much importance to certain indications.

Weather

Detailed records may be found in the Climatological Data, New England Section, of the U. S. Department of Agriculture Weather Bureau.

The latest spring frost was on May 26, when the temperature at crop level was 29° and there was slight injury to potatoes and tomatoes. The earliest autumn frost was on August 29, when the tip leaves of Japanese millet were slightly touched. On September 23, at 28° there were killed, sunflower, Sudan grass, corn, and Japanese millet: the upper leaves of cannas, peppers, nasturtiums, eggplants and soybeans were frosted, also the outer leaves of lettuce and the youngest leaves of cauliflower. The temperature dropped to 25° on September 28, when beet and cauliflower leaves were badly frosted. On October 24, at 19° kale and barley were frozen.

June was the warmest for that month on record, and October was the coldest one since 1917. The rainfall was well distributed throughout the growing season although that for the state was

*Contribution 203. In Bulletin of Rhode Island State College, Vol. XXI, February, 1926.

2.28 inches below normal in April, 1.10 inches below in May, and 0.49 inches below in June.

Organic Matter for the Soil

The four winter legumes seeded on September 4, 1924, went into the winter with poor stands, with the exception of the sweet clover and this was badly heaved in the spring. What vetch there was wintered fairly well. As usual a low-nitrogen fertilizer was used, after plowing in the cover crops, so as to allow opportunity for the different legumes to exhibit their relative nitrogen-fixing values. Sweet corn planted May 5, was the crop used to demonstrate possible differences produced by the four legumes. As has usually been the case, the yields of corn following red clover and sweet clover were larger than those following vetch and alfalfa.

Based on the average of the last six years, where corn is grown continually with complete fertilizer, 48 bushels of corn were produced with 20 pounds of nitrogen per acre each year and with a legume cover crop plowed in, 46 bushels resulted from 60 pounds of nitrogen and a rye cover crop plowed in, and 41 bushels from 60 pounds of nitrogen and no cover crop.

With ample fertilizer, it was immaterial to early cabbages whether the organic matter was supplied in stable manure, green manure or peat. The peat was not suitable for early tomatoes and late celery but certain of the green-manure treatments were satisfactory. Early lettuce continued to be poor on the plat which received its organic matter in peat instead of in stable manure. With late beets and spinach the peat residue and fertilizer produced better than only the residue of 32 tons of manure. A compost of the refuse of the rotation together with peat, straw and a little manure has also been introduced as a source of organic matter.

Crops planted during the latter half of July to find out which produces the largest amount of material above ground, have yielded the following as an average of the last seven years:

buckwheat in 1925 showed a depression of 10 per cent. due to the rye crop.

Efficiency of Fertilizers and Manures

During eight continuous years, mixed hay with an annual topdressing of 75 pounds of phosphoric acid in acid phosphate, and 50 pounds of potash in wood ashes has yielded with the different nitrogenous topdressings, the following average weights, about half of which is still clover:

	Tons of hay per acre.
Horse-stable manure, 4 cords.....	2.95
Nitrate of soda, 50 lbs. N. an acre.....	3.17
Nitrate of soda, 25 lbs. N. an acre.....	2.71
Cyanamid, 25 lbs. N. an acre.....	2.45
Sulphate of ammonia, 25 lbs. N. an acre.....	2.43

Where more lime is used with sulphate of ammonia than with nitrate of soda, as is necessary if acidity is reduced to the same amount, there was not much difference in the average yield of most vegetables. After early June, the amount of nitrate nitrogen in the soil was practically the same from the two sources.

In the spring of 1924, mixed grass and clovers were seeded where suboptimum amounts of different carriers of phosphorus are used with sufficient potassium and nitrogen. The unacidulated rock phosphate or floats is added once in four years and the acid phosphate each spring. Compared with acid phosphate on an equal phosphorus basis, the floats gave less than half as much hay increase in the last two years, and even on an equal cost basis the floats gave less than two-thirds the increase caused by the acid phosphate. Bone, Thomas slag and double or triple superphosphate compared quite favorably with the acid phosphate on an equal-phosphorus basis.

In a situation similar to the foregoing except that potassium instead of phosphorus was insufficient, and where the different commercial potash salts are so used that not only potassium, but the associated elements also have an opportunity to exert an influence, the lowest yield of hay was with the magnesium-potassium sulphate as has been the case in the past with other crops. The muriate and sulphate were about equally useful, but the kainit

buckwheat in 1925 showed a depression of 10 per cent. due to the rye crop.

Efficiency of Fertilizers and Manures

During eight continuous years, mixed hay with an annual top-dressing of 75 pounds of phosphoric acid in acid phosphate, and 50 pounds of potash in wood ashes has yielded with the different nitrogenous topdressings, the following average weights, about half of which is still clover:

	Tons of hay per acre.
Horse-stable manure, 4 cords.....	2.95
Nitrate of soda, 50 lbs. N. an acre.....	3.17
Nitrate of soda, 25 lbs. N. an acre.....	2.71
Cyanamid, 25 lbs. N. an acre.....	2.45
Sulphate of ammonia, 25 lbs. N. an acre.....	2.43

Where more lime is used with sulphate of ammonia than with nitrate of soda, as is necessary if acidity is reduced to the same amount, there was not much difference in the average yield of most vegetables. After early June, the amount of nitrate nitrogen in the soil was practically the same from the two sources.

In the spring of 1924, mixed grass and clovers were seeded where suboptimum amounts of different carriers of phosphorus are used with sufficient potassium and nitrogen. The unacidulated rock phosphate or floats is added once in four years and the acid phosphate each spring. Compared with acid phosphate on an equal phosphorus basis, the floats gave less than half as much hay increase in the last two years, and even on an equal cost basis the floats gave less than two-thirds the increase caused by the acid phosphate. Bone, Thomas slag and double or triple superphosphate compared quite favorably with the acid phosphate on an equal-phosphorus basis.

In a situation similar to the foregoing except that potassium instead of phosphorus was insufficient, and where the different commercial potash salts are so used that not only potassium, but the associated elements also have an opportunity to exert an influence, the lowest yield of hay was with the magnesium-potassium sulphate as has been the case in the past with other crops. The muriate and sulphate were about equally useful, but the kainit

was superior to all, resulting in a third more hay than the other potash salts, probably because of its sodium content. The magnesium and sulphur have not yet been useful.

In numerous past instances at this station, growth difficulties have arisen in the field when soil acidity has been nearly or quite neutralized by liming. Chlorosis has been one of the symptoms, and it has been assumed to be a nutrient-deficiency disturbance. A failure in the assimilation of iron was suspected but not proven. The discovery has now been made that the need was for manganese. In the spring, the chlorosis of spinach, oats, beets, beans and peppers was reduced or prevented by applications of a soluble salt of manganese and in later plantings the improvement in appearance of beet leaves was reflected somewhat in the yield of roots. The chlorosis of late spinach was entirely prevented by spraying with 12 pounds of manganous chloride an acre; and, thereby, the yield was increased a third. On beans, in pots, up to 80 pounds of manganese salt did no harm with a nearly neutral soil, but half this amount was deleterious in an acid soil.

As usual on the early market-garden crops, 1500 pounds of a 4-10-2 fertilizer were a decidedly better supplement to 16 tons of stable manure than were an additional 16 tons of manure instead of fertilizer.

In a dairy rotation where the manure used is now equivalent annually to about 330 cow-days an acre, the smallest yield of silage corn was over 20 tons. This was with manure containing sawdust as bedding. Where this is supplemented with acid phosphate or with muriate of potash the yield was increased a fifth. Where manure with straw instead of sawdust bedding is used the yield was increased a sixth. On one plat sufficient fertilizer alone is applied to grow crops as large as those produced with the sawdust manure.

Plant Differences and Needs

In the non-manure, five-year rotation of 1, corn; 2, potatoes; 3, rye and rowen; 4, grass and clover; and 5, grass; the rye and grasses are sown in the autumn and the red and alsike clover on the surface of the ground the next spring. At that time it was desired to add fertilizer appropriate to secure a good proportion

of clover. On various plats there were different amounts of the fertilizer ingredients. Too much ammonia increased the rye and grasses but depressed the clover; high phosphoric acid was not needed, but high potash was good for the clover. About 500 pounds of a 5-6-8 fertilizer were satisfactory, resulting in 30 bushels of rye and 2 tons of rowen.

Other results with clover and grass mixture showed how necessary to clover growth are liberal amounts of potash even though the amount of ammonia was low. With a low amount of potash, and a consequent yield of 3 tons, the clovers comprised only 15 per cent. of the hay; whereas with sufficient potash the yield was 4 tons, of which 40 per cent. were clovers. The use of adequate lime also increased the yield from 3 tons to 4 tons, the latter consisting of a fourth alfalfa and more than half timothy. The 3 tons produced, where only a little lime had ever been used, were about a third each of red clover, alsike clover and redtop; only a little timothy and no alfalfa could exist under such conditions. When the growth of timothy and alfalfa was made possible, however, by more lime, the alsike clover was crowded out and the proportion of red clover reduced a half. Sown in a mixture, the different species are able to resist acid soil conditions in the following increasing order, namely: alfalfa, timothy, red clover, alsike clover and redtop. In the harvest, the proportion of these different ingredients of a grass mixture depended largely on the amount of alumina which was rendered toxic by soil acidity, and upon the relative amounts of nitrogen, phosphorus and potassium which are available.

The asparagus was cut before the sodium salts of 1925 were applied, therefore the yields were influenced by no later sodium applications than those of July 2, 1924, the full rations of which were equivalent to 1500 pounds of sodium oxid an acre. In the spring the nitrogen, phosphorus, and for the first time the full-ration of potassium, applications were liberal. Even where like soil acidity was maintained, the full application of sodium chlorid increased the crop when used to supplement potassium, while sodium carbonate did not. On July 30 and 31, after the harvest, the full sodium applications made were equivalent to 2000 pounds of sodium oxid an acre.

Again it was shown that with ample nutrients, beans, oats, endive, and gladiolus may make optimum growth under conditions accompanying high acidity (below pH 5.3), that cauliflower, peppers and cabbages do well under medium-acid conditions, but that beets, spinach, lettuce, and celery need low-acidity conditions (above pH 6.).

For the rotation including Golden Acre cabbage, Earliana tomato and Salamander lettuce as early crops, 16 tons of stable manure and 1500 pounds of a 4-10-2 fertilizer supplied enough potash, enough phosphoric acid except for lettuce, but not enough ammonia for a maximum crop of cabbages. Accumulating evidence favors a 4-14-2 ratio for lettuce and a 6-10-2 for cabbages. For the second crops of this rotation, the equivalent of 1200 pounds of a 5-8-8 was used to supplement the spring applications of manure and fertilizer chemicals. Nevertheless, the spinach and beets responded to more nitrogen, and the spinach and celery to more phosphorus. The cabbages and tomatoes were also grown with green manures instead of stable manure, using 1600 pounds of a 6-10-6 fertilizer, and as high yields were obtained as with the stable manure and fertilizer. For the late celery with green manure, 2500 pounds of a 4-8-6 ratio were used. For the first time, celery yields equal to those with stable manure were secured with green manures.

Different crops varied greatly in the rate at which they removed soil nitrates. On an area where fertilization is uniform, nitrate determinations made July 30 under rapidly-maturing crops showed that the leafy cabbages and beets had taken all but 10 pounds of nitrate nitrogen an acre, while under carrots and onions there remained the comparatively large quantity of 128 pounds an acre. Again, determinations were made August 17 under three crops growing on a given area with uniform treatment. Mature cabbages had taken all but 16 pounds an acre, maturing peppers still had 34 pounds, while 44 pounds an acre were found under half-grown eggplant.

An attempt is being made to estimate the level of certain nutrient elements which may be necessary for the production of normal field and market-garden crops. In addition to deter-

minations of total phosphorus, nitrogen and potassium in crops which by yield proved to be average and below the average, determinations of the concentrations of the soluble forms of these elements as found in the growing plants were made. Marked correlations were found between the amounts of phosphorus, potassium and nitrate nitrogen added to the soil in mixed fertilizers and the concentrations of these elements in the expressed plant juice. The more of the elements added, the greater were the concentrations found. Correlations were also observed between the nitrate-nitrogen content of the soil and the nitrate concentration of the juice. In conjunction with the applications of manganous sulphate in the correction of chlorotic conditions, determinations were made on the expressed juice of both treated and untreated plants. Direct correlations between the soluble manganese content of the plants and both manganese applications and the correction of chlorosis were observed.

Twenty potato crosses supplied from Presque Isle, Maine, by the United States Department of Agriculture yielded of U. S. No. 1 size, from 95 to 424 bushels. Under the same conditions the Green Mountain yielded 370 bushels; and with slight modifications the Spaulding Rose yielded about the same, and the Irish Cobbler 294 bushels.

In a comparison of Hubbard squashes, the blue variety yielded more than three times as much as the green variety from the same seedsman, and twice as much as Rhode Island grown seed of a green strain, number 270, from the Vermont Experiment Station.

Annual sweet clover or Hubam was compared with biennial sweet clover both planted March 25 and cut July 16. The yield of each was about 2.5 tons of hay; and, although the first crop was cut high, there was no second crop of either variety.

The Japanese seed onions yielded only about two-thirds as much as Southport Yellow Globe. Both were troubled with thrips.

A comparison of sweet corn varieties planted May 5 furnished the following information:

	When ready for first picking	No. of 100 ears an acre	Cwt. of ears an acre
Columbia	Aug. 3	116	43
Crosby (bred by the New Haven, Ct., station)	Aug. 12	125	50
Whipple's Yellow	Aug. 17	171	107
Catawba	Aug. 23	212	84
Golden Bantam	Aug. 28	219	93
Bantam Evergreen	Sept. 1	143	98

A small amount of New York Wonderful lettuce was grown in the greenhouse to see if it could be produced to compete with the California Iceberg lettuce. It made large, solid heads, the plants weighed 1 to 1½ pounds, and the closely-trimmed heads up to about a pound. It compared favorably with the California product, whereas the usual crop of May King lettuce, grown side by side with it, weighed only 1/3 to 1/2 pound, and the heads were comparatively small. The New York Wonderful lettuce required two to three weeks longer to mature in the greenhouse than did the smaller variety and would also ordinarily demand wider spacing. It is quite evident that a satisfactory Iceberg lettuce can be grown in the local greenhouses. It rests with the growers to decide whether such a crop would be profitable.

Tomatoes sown in August, 1924, and planted in the greenhouse in October, did remarkably well. The harvest began the last of January, and up to the first of May as many tomatoes were harvested from them as are ordinarily obtained from the same space with a spring crop. These mid-winter greenhouse tomatoes seem to be highly appreciated by customers and sell readily. The varieties which gave the best results in this crop were the Comet, and a strain of Bonny Best developed by the New Hampshire Experiment Station. The Comet made larger fruit during February and March, but the crop was lighter than of the Bonny Best. In April the fruits were more nearly of the same size on the two varieties and the Bonny Best continued to yield somewhat more heavily.

Effect of Crops on One Another

In the autumn the entire area used to determine the effect of two years' growth of sixteen different crops on a single crop grown subsequently was seeded to timothy.

Late cabbages following four different first crops grown in the same season, under conditions intended to be suitable, have given the following yields as an eight-year average:

	Late cabbage heads Tons per acre
Grown after beets.....	9.17
Grown after spinach.....	8.59
Grown after potatoes.....	8.16
Grown after peas.....	7.87

With 1600 pounds of a 6-10-6 fertilizer ratio, the yield of Earliana tomatoes decreased with green manures in the following order: fall-plowed Italian ryegrass, spring-plowed rye, fall-plowed Japanese millet.

With 2500 pounds of a 4-8-6 fertilizer ratio, the yield of late celery decreased with green manures in the following order: rye, timothy, oats. Concerning these latter crops, always respectively, their dry-matter nitrogen content was 1.6, 1.2, and 3.3 per cent when plowed down on May 20, June 12, and June 1. On July 6, the soil contained 40, 12, and 96 pounds on nitrate nitrogen an acre. On July 22, 80 pounds of nitrogen having been added on July 8, there were 132, 80, and 144 pounds. Under the celery crop on September 10, there were 112, 54, and 60 pounds.

In the sunken pots, the soil in which was nearly neutral, redtop, a crop with low-lime response and lime content, yielded a fifth more during two years when it followed mangels than following onions, rye, redtop or buckwheat; whereas, mangels, an alkaline crop, is markedly deleterious to a subsequent crop with high-lime response when grown in an acid soil.

Modification of Sour Soils

To the plats which receive high-calcium or high-magnesium hydrate or carbonate, the equivalent of 3000 pounds of calcium

oxid was applied in the autumn of 1924, and miscellaneous crops were grown. At the close of 1925, there was only a slight acidity, but the calcium-oxid absorption was, as usual, less with the hydrates than with the carbonates. The acidity was practically all neutralized for the express purpose of inducing chlorosis. Under these conditions, but not at a higher degree of acidity, a manganese deficiency was discovered to exist.

In connection with numerous plats of lawn or putting-green grasses receiving various fertilizers, acid-soil conditions have been maintained by annual applications of 250 pounds each of sulphate of ammonia, acid phosphate and muriate of potash an acre; and such troublesome weeds as plantain, dandelion, chick-week and crab grass have been entirely eliminated thereby from competition with bent and fescue grasses.

Acid-soil conditions were changed according to the crop which was grown and removed. Alkaline crops such as mangels and buckwheat removed more alkaline than acid constituents, whereas carrots and millet, for example, removed more acid than alkaline constituents. The first pair, then, tend to make a soil more acid and the last pair to make it less acid.

The effect of the continued use of different nitrogen carriers is shown in the sunken pots wherever the soil reaction is near the critical point for the crop grown. The nitrate of soda and starfish, for example, lessen the acidity, whereas protein-like substances such as dried blood and hoof-meal increase the acidity. In 1925, the soil pH with starfish, which has a calcareous covering, was about 6.3, but with blood it was 5.2. This effect of different carriers was shown markedly by the yields of buckwheat, which were satisfactory with starfish and nitrate, but were very poor with the protein-like substances.

Large amounts of acid phosphate, which reduce toxicity caused by aluminum, again proved useful in modifying the soil in preparation for certain low-resistance crops such as beets and spinach.

Since active aluminum is the principal toxic substance in many acid soils, solution work on the relative toxicity of aluminum to different crops is being conducted with seedings by supplying phosphorus and aluminum in alternate half-weeks to guard

against precipitation. The growth of the more sensitive seedlings, such as beets and lettuce, was much depressed when 3.4 p. p. m. of alumina were in the solution, whereas four times this concentration had only a slight effect on the growth, for example, of oats, corn and cabbages, which are highly resistant to acid-soil conditions in the field.

Apple Varieties in Rhode Island

The survey indicated that, in the minds of the grower, red color is a very important and perhaps too prominent a factor in determining the desirability of a variety. Although newer varieties are gaining ground, the Baldwin is still holding the lead over all other varieties. Over one-third of all trees and over one-half of trees of bearing age are of this variety. In recent plantings the McIntosh has forged ahead rapidly, but young non-bearing orchards still have more Baldwin than McIntosh. In orchards of bearing age the Rhode Island Greening is a prominent variety, but recent plantings amount relatively to only a few trees. The survey emphasized rather strikingly that quantity of fruit per acre, or per tree, as well as quality and high price for the fruit, are more readily attained by the grower who fertilizes and sprays intelligently, although skill in packing, grading, advertising, and marketing is also an important factor in securing the highest cash returns.

The Market and Consumer Reactions concerning Rhode Island Fruit and Vegetables

Wholesalers on the Providence market have expressed the thought that the great need in the marketing of apples was a reduction in the number of varieties. Their selection of varieties would indicate that Williams, Gravenstein, McIntosh, Rhode Island Greening, and Baldwin would make up an ideal succession of commercial varieties. Several felt that some official state grading standards would be an aid in improving the grade of fruit brought to market by local growers. A bushel capacity container was preferred to a larger container, such as the barrel.

Loose, leaf-vegetables, such as spinach and dandelions, have

horns and Light Brahmas. While the offspring of the Leghorns and Brahmas was mostly white, although somewhat rusty at times, the offsprings from these crossbreds are in many cases colored. Both generations show a weight intermediate between that of the original parents, but nearly equal to that of the Brahmas. The present plan is to accumulate for one more season data on all of the classes concerned and then to close up the field work on this project. In the meantime, body measurements are being made on fairly large numbers of birds to show morphological changes that may possibly have some relation to egg production.

The analysis of the material on the inheritance of egg-weight is proceeding as rapidly as possible. Together with the effect of selection on egg-weight, are being considered the interrelation of a number of other factors, such as date of hatching with egg-weight and body-weight; age to maturity with production, body-weight and egg-weight; egg-weight with production and others.

Diseases in Poultry

On account of the limited number of poults hatched, it was not possible to undertake additional work on blackhead in turkeys aside from the rotation experiment. The poults were this year for the first time reared on ground previously occupied during this experiment. Some of the soil had actually had a rest of only one year since it was used for this work before. The mortality from blackhead during this season was about ten per cent. This is somewhat larger than in previous years. The highest mortality was found in the pen adjacent to the land used last year and may be due to organisms carried over from last year's plat. For the first time in this work gapaworms appeared, however, only in one of the control pens.

The work on white diarrhea in chicks comprising the agglutinative and biochemical reactions of various strains of *S. pullora* is being completed and will be prepared for publication in the near future. Chicks fed on cultures of *S. pullora* were fed various chemicals in the drinking water. The only substance that appeared to have any effect whatsoever was a hypochlorite

horns and Light Brahmas. While the offspring of the Leghorns and Brahmas was mostly white, although somewhat rusty at times, the offsprings from these crossbreds are in many cases colored. Both generations show a weight intermediate between that of the original parents, but nearly equal to that of the Brahmas. The present plan is to accumulate for one more season data on all of the classes concerned and then to close up the field work on this project. In the meantime, body measurements are being made on fairly large numbers of birds to show morphological changes that may possibly have some relation to egg production.

The analysis of the material on the inheritance of egg-weight is proceeding as rapidly as possible. Together with the effect of selection on egg-weight, are being considered the interrelation of a number of other factors, such as date of hatching with egg-weight and body-weight; age to maturity with production, body-weight and egg-weight; egg-weight with production and others.

Diseases in Poultry

On account of the limited number of poults hatched, it was not possible to undertake additional work on blackhead in turkeys aside from the rotation experiment. The poults were this year for the first time reared on ground previously occupied during this experiment. Some of the soil had actually had a rest of only one year since it was used for this work before. The mortality from blackhead during this season was about ten per cent. This is somewhat larger than in previous years. The highest mortality was found in the pen adjacent to the land used last year and may be due to organisms carried over from last year's plat. For the first time in this work gapaworms appeared, however, only in one of the control pens.

The work on white diarrhea in chicks comprising the agglutinative and biochemical reactions of various strains of *S. pullora* is being completed and will be prepared for publication in the near future. Chicks fed on cultures of *S. pullora* were fed various chemicals in the drinking water. The only substance that appeared to have any effect whatsoever was a hypochlorite

solution containing about 0.02 per cent available chlorine. In the eighty chicks on which this solution was tried, the mortality was only about one-third that of the control lots or the lots given other chemicals. Further experiments will have to be tried before this substance can definitely be said to be beneficial in this disease. The results of the work of last spring will, however, be prepared for publication in the near future. Further work will be taken up when the next hatching season begins.

Further attempts have been made to transmit paralysis in adult fowls by inoculation from one bird to another. These experiments have been so carefully done and the results have been so completely negative that a transfer from a paralysed bird to another adult bird by means of inoculation seems entirely excluded. An attempt is being made at present to see if paralysis can be induced in birds kept in small pens into which the litter from paralysed birds is being dropped. No results have so far been obtained.

Publications

The fertilizer nutrients required by barley, wheat and oats, as shown by both soil and water cultures. *In Soil Science* 19: 169-200.

Thirty-seventh annual report of the station. *In Bul. of Rhode Island State College* 20: 40-53.

Tracheo-laryngitis in poultry. *In Jour. Amer. Vet. Med. Assoc.* 67: (n. s. 20) 229-231.

Economical use of nitrogen, phosphorus and potassium by barley, oats and wheat in solution cultures. *R. I. Agr. Exp. Sta. Bul.* 199, February, 1925, 53 p.

A comparison of four legumes as regards their ability to withstand conditions and increase the yields of the following truck crops. *In Jour. Amer. Soc. of Agronomy* 17: 363-367.

Inspection of feeds. Annual feed circular, April, 1925, 12 p.

Inspection of fertilizers. Annual fertilizer circular, September, 1925, 12 p.

The inheritance of body-weight in poultry. I. *In the Cornish-Hamburgh cross.* *R. I. Agr. Exp. Sta. Bul.* 200, May, 1925, 34 p.

Manganese as a cure for a chlorosis of spinach. *In Science* 61: 636-637.

The substitution of stable manure by fertilizers, green manures and peat. II. R. I. Agr. Exp. Sta. Bul. 201, June, 1925, 16 p.

Field observations and laboratory findings in paralysis of the domestic fowl. R. I. Agr. Exp. Sta. Bul. 202, December, 1925, 18 p.

Respectfully submitted,

BURT L. HARTWELL,
Director.

Kingston, R. I.,
January 11, 1926.

REPORT OF THE EXTENSION SERVICE 1925

PRESIDENT HOWARD EDWARDS:

DEAR SIR:

I present herewith the Annual Report for the Twenty-fourth year of the Rhode Island State College Extension Service.

Administration

There have been several changes in the organization of project work of the Extension Service during the past year. For the fiscal year ending June 30, 1925, the work was grouped under five projects, Administration, County Agent Work, Home Demonstration Work, Boys' and Girls' Club Work, and Plant Industry Extension; the work in Farm Management of former years was discontinued. On July 1st, the Plant Industry project was dropped from the list of projects.

By the rearrangement of work within the College, it has become possible to add four new projects: Animal Husbandry, Agronomy, Fruit Growing, and Poultry Husbandry. Work in these lines was commenced on September 1, when the members of the teaching staff became part time specialists in the Extension Service. This addition of subject matter specialists should increase the efficiency of the Extension Service very materially, as it will relieve the County Agents of the responsibility for subject matter and enable them to spend a much greater proportion of their time in organization of their counties into effectively working groups.

The project leaders meet with the Extension Director on each Tuesday afternoon. At these meetings discussions are developed upon the needs of the field work, relationships between the various departments of the College, State, and the United States Department of Agriculture. As a result definite policies for carrying the work into the field are being formulated. Monthly conferences with the County Agents are being held either in the Farm Bureau Offices or at the College.

The Extension Service was represented at the annual meeting of Extension Directors of the United States held in connection

with the annual meeting of the Association of Land Grant Colleges. The annual conference of Extension workers was held November 24 and 25. At this Conference, Miss Florence E. Ward and Mr. H. W. Hochbaum of the Federal Extension Service were present and gave much valuable aid and advice in formulating the Extension program for the ensuing year. Early in the year a meeting was held at which representatives from the Board of Directors of all of the Farm Bureaus were present, the object of this meeting being to more clearly define the relationships between the Farm Bureaus and the central organization. In connection with the permanent organization of the Rhode Island Agricultural Conference, considerable time has been spent in assisting in the development of a five-year agricultural program for the State. Meetings have also been attended of the various breed promotion associations of the State in an endeavor to enlist them in a definite and active support of the Extension program.

Camp Edwards, the Boys' and Girls' Camp of the State, was again held at the College. This Camp is growing in influence and importance as a source of inspiration to Club members and as a training school for leaders.

The agricultural organizations of the State are co-operating in a very satisfactory manner. The Grange, the different Fair Associations, Fruit Growers, and Breed Associations have given much assistance in program planning during the past year.

Personnel

During the fiscal year of July 1, 1924, to July 1, 1925, there have been several changes in the personnel. From the Extension Staff at the College, Mrs. Hope Browne Minor resigned as Home Demonstration Leader, effective April 30, 1925. Director A. Edward Stene, who has been in charge of Extension Work in Rhode Island since July 1, 1907, resigned to take up horticultural work in the Experiment Station, the resignation becoming effective June 30, 1925. The vacancy caused by this resignation was filled by the appointment of G. E. Adams, Dean of the Agricultural Department of the College, as Extension Director and State County Agent Leader. There have been no changes in the

personnel of the County Agricultural Agents. Mrs. Raymond Sutcliffe, nee Miss Doris Kinne, resigned as Home Demonstration Agent of the Southern Rhode Island Farm Bureau on June 27, 1925. Owing to insufficient financial support, no successor has as yet been appointed. In the Extension office at the College, Miss Alice Inez McMeehan resigned in August, 1924, and was succeeded by Miss Helen Lowe Urquhart. Miss Sybil B. Hyde resigned in November and her position was filled by the appointment of Miss Marjorie Bedell. Miss Frances Hammett, stenographer in the Club Work office, resigned June 30, and was succeeded by Miss Bedell, who was promoted from filing clerk.

Equipment

The following equipment has been purchased for the office during the year: one typewriter, a power operated multigraph, a mimeograph and stand, ten books, a condenser lens and lamp, transfer cases and files.

Publications

The following Extension Bulletins were issued during the fiscal year:

Extension Bulletin No. 37. "Chemical Analysis of Soil Fertility."

Extension Bulletin No. 38. "Growth Work for 4-H Club Members."

Extension Bulletin No. 40. "Poultry Foods and Feeding."

Extension Bulletin No. 41. "Poultry Pointers for 4-H Club Work."

Extension Bulletin No. 42. "First Principles in Clothing Club Work."

More material dealing with Extension work has been published in the newspapers of the State, both rural and urban, than ever before. Beginning in September, 1925, a monthly mimeographed sheet is being sent to the farmers in the State, under the head of "Profit Pointers." This sheet contains short items and suggestions for the farmers. Another mimeographed sheet called "The Service Sheet for Animal Husbandry" is being issued from this Department. This sheet contains a monthly dairy ration and timely hints for the care and management of farm animals.

Finances

The following financial statement is based on the report made

to the United States Department of Agriculture for the fiscal year ending June 30, 1925:

SMITH-LEVER FUNDS

Federal Smith-Lever	\$11,213 92
Supplementary Federal Smith-Lever.....	384 90
State Smith-Lever Offset.....	1,213 92
Supplementary State Smith-Lever.....	384 90

UNITED STATES DEPARTMENT OF AGRICULTURE FUNDS ALLOTTED TO RHODE ISLAND

For County Agent Work.....	\$3,300 00
For Home Demonstration Work.....	3,170 00
For Boys' and Girls' Club Work.....	1,200 00

Projects

The active field work during the past year has been devoted to the following projects: County Agricultural Work, Home Demonstration Work, and Boys' and Girls' Club Work. The three Agricultural County Agents, one in each Farm Bureau district, work through the local Farm Bureau on the agricultural projects chosen by the members of the local Farm Bureaus. The principal farm problems worked upon by the County Agricultural Agents during the past year were Soil and Crop Improvement, Live Stock Improvement, Poultry Improvement. Demonstrations now under way show that it is possible to increase the production of home grown protein by growing the leguminous crops, such as clovers and alfalfa. The heavy losses from disease-infested potatoes used for seed have caused the County Agents to hold field meetings at which community groups were made familiar with the appearance of the various diseases which are transmitted by poor seed. They have also been of assistance in the procuring of certified seed potatoes.

Preliminary to a campaign for better bulls, the Agents have been making a preliminary survey of the number of dairy herds, number of purebred and grade animals, number of purebred and grade sires, in the State. The results of this survey are now being compiled. During the coming year, active work will be

pushed for better bulls. Much assistance has been given in the compounding of rations and in determining the cost of milk production.

Poultry Improvement. During the year, one of the most important lines of County Agent work has been that of improvement work with poultry through culling campaigns and disease control work. The following figures from County Agents' reports will give an indication of the importance of this work. Fifty-two flocks were culled, having a total of 8048 birds, of which 2493 were discarded; including disease control work 16,159 birds were involved. White diarrhoea has taken a heavy toll from the poultrymen of the State during the past few years. At present a campaign for the eradication and control of this disease is being developed.

Other Work

In Northern Rhode Island, much attention has been given to the improvement of the home grounds through a contest conducted by the local Farm Bureau, in which prizes have been offered for those farmsteads showing the greatest artistic improvement during the year. Forty-one farms have been entered in this contest. Much miscellaneous work, such as testing soil for lime requirements, advice concerning source of improved seed, pasture improvement, labor and marketing problems, has been done. Tests have also been conducted upon the source of seed as influencing the yield of cabbage and cauliflower.

Boys' and Girls' Club Work

Growth Work was the outstanding new feature in 4-H Club Work in Rhode Island during the past year. Introduced by Miss Miriam Birdseye, assisted by Dr. Richard M. Smith, pediatricist, of Boston, and Dr. Marion Gleason, director of the Child Welfare Division of the State Board of Health at the State 4-H Camp and Short Course at the Rhode Island State College in June, 1924, the Growth Work went through an experimental stage during the fall of 1924 and spring of 1925. The reference material and record books were gradually simplified and made

more clear and a suitable type of demonstration was worked out.

Appreciable improvement in the health and food habits scores of hundreds of 4-H Club boys and girls resulted from the efforts made to introduce this work in all the clubs during the 1924-25 season.

Growth Work as taken up by the 4-H Clubs this fall includes the same subject matter material as formerly with an improvement in the outlines which makes them usable by even the youngest members, while the demonstrations in scoring the health and food habits which have been given before most of the 4-H Clubs are greatly increasing the beneficial results of this work.

The enrollment in 4-H Club Work in Rhode Island increased from 1524 in 1924 to 3022 in 1925. The expected field assistance from the County Extension Agents, however, did not materialize, and this, in addition to the fact that there were a greater number of small rural clubs, resulted in a slight decrease in the percentage completing the season's work; namely, from 86 to 82 per cent. Much of the increased enrollment was due to the introduction of the Growth Work, but there were also increased enrollments and increased completions in the clothing, foods, poultry and handicraft clubs.

As practically all of the field work was done personally by the State Club Leader, the Southern Rhode Island district received the most intensive attention, and in this district practically all of the boys and girls of club age in the rural schools are enrolled in the 4-H clubs. Most of these have been weighed and measured and have been present at a meeting where the 4-H health and food habits scoring has taken place. The superintendents of schools, school physicians and nurses, and the State Board of Health have co-operated in making the Growth Work a success.

The percentage of 4-H Club members in rural communities or small villages in comparison with urban or suburban membership has increased from 65 per cent in 1924 to 84 per cent in 1925.

The relatively small enrollment in the agricultural clubs is especially noticeable, but it is doubtful if any large increase in this enrollment can be obtained unless some method can be provided for the intensive follow-up work which seems to be essential to the success of this type of clubs.

Although very little personal follow-up attention can be given under the present conditions to any of the clubs, the choosing of capable leaders in the first place and the persistent follow-up work by mail through the personal replies to the reports of club meetings, has resulted in much excellent work being done by the clothing, foods, handicraft and growth clubs. The lack of personal visits and demonstrations by an Extension Agent in these clubs is, however, a very distinct handicap to all of these clubs, and especially to those members who have been in the club work several years and who are ready to take up more difficult work.

The 4-H Club Work has now reached the point where any material strengthening of or increase in the work cannot be expected until funds are made available for the employment of county workers in club work or the employment of an assistant State Club Leader working from the central office. Considering all phases of the work and the size of the State, the employment of an assistant State Club Leader would seem to be the more logical course to pursue.

Plans should be made as soon as possible for strengthening this work either by State funds or a co-operative arrangement with the Federal Extension Service.

Home Demonstration Work

At the present time there is but one Home Demonstration Agent doing county work within the State. This situation is due to the lack of sufficient funds for the support of the work. Arrangements are under way whereby it is hoped that the Eastern Rhode Island and Southern Rhode Island Farm Bureau districts will soon be able to employ a joint Home Demonstration Agent, this agent to do part time work in each district.

The work accomplished during the past year in the Providence and Southern Rhode Island Farm Bureaus has been as follows: Twenty-two groups of women in Providence County pursued definite projects in clothing and millinery; 270 dresses and 240 hats were completed. In co-operation with the Boys' and Girls' Club Work, health work was carried on in ten schools. Circular letters and food score cards and news articles giving publicity

to the work were prepared. The most satisfactory results were obtained in the clothing project work, which resulted in arousing increased interest and the formation of new community groups.

The Southern Rhode Island Farm Bureau, owing to the lack of funds for field expenses in the early part of the year and later due to illness and resignation of the Agent, has little in the way of accomplishment to its credit. However, 91 women started and completed the clothing project and permanent pattern making.

In September, there was a change of Agents in Providence County. The new Agent has been reorganizing and planning programs in eight communities. On October 1st, a new State Home Demonstration Leader, Miss Sara E. Coyne, was appointed. Up to the present, her time has been very largely devoted to reorganization of the work in Eastern and Southern Rhode Island in two projects; namely, clothing and foods. In addition to this work, there is being developed a plan for a five year program in Home Economics Extension work.

Outlook

At the present time, the most serious handicap to the Extension Work is the lack of sufficient local funds for County Agent work. It is hoped that with the organization and development of a definite long term program of work greater interest will be aroused and less difficulty encountered in obtaining funds sufficient for the proper promulgation of the work.

As a result of the publicity given to the agricultural industry of the State through the formation of the permanent Agricultural Conference, it is believed that the outlook for an improved and healthy industry within the State is better than for several years past.

Acknowledgment is hereby made for the many helpful suggestions and assistance rendered by many individuals and associations in the development of plans for strengthening and improving the work of the Extension Service.

Respectfully submitted,

G. E. ADAMS,

Director.